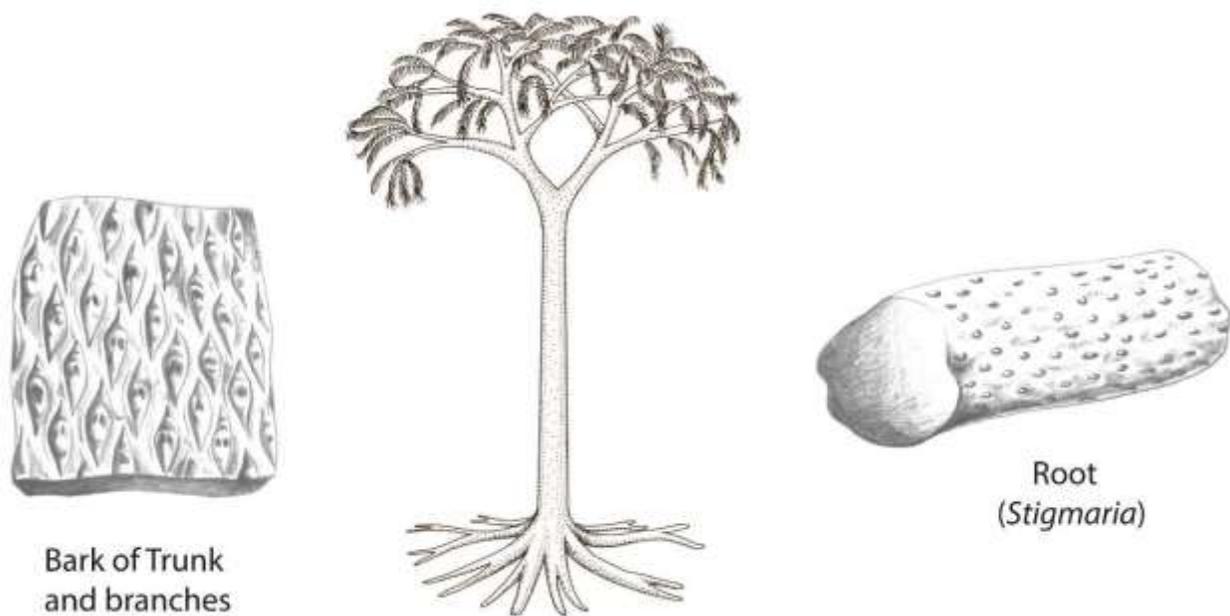
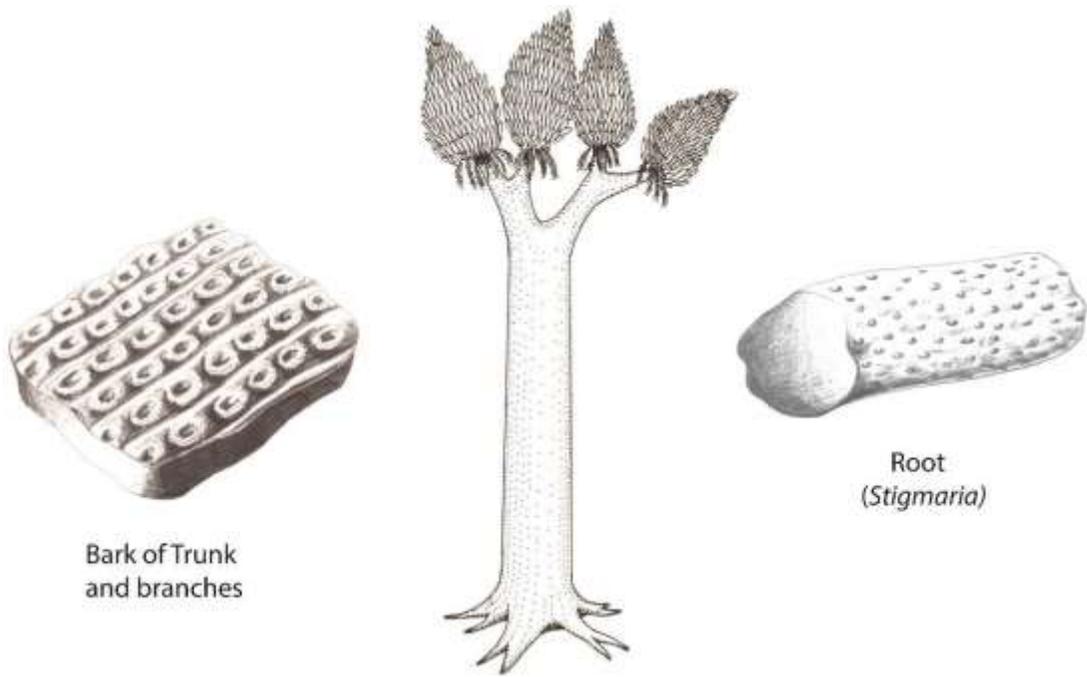


Lycopods

Throughout geologic time the seas have undergone transgressions (high sea level) and regressions (low sea level). During times of regression land is exposed, and in the Mississippian and Pennsylvanian there was abundant plant life thriving in subtropical conditions around the world. Most of the plants that grew in swampy areas eventually fell and accumulated in large numbers to ultimately form coal, lending the name Carboniferous Period or coal measures. The dominant trees of this period were the lycopods *Lepidodendron* and *Sigillaria*. Other plants that were more common on higher ground and along floodplains are the fossil horsetails called *Calamites* which were tree-sized plants reaching a height of approximately 20 m. In Arkansas, the best preserved of these fossils are found in Pennsylvanian age rocks from the Arkansas River Valley. Small fragments of plant fossils can be found in Mississippian and Pennsylvanian age rocks in the Ozark Plateaus Region.



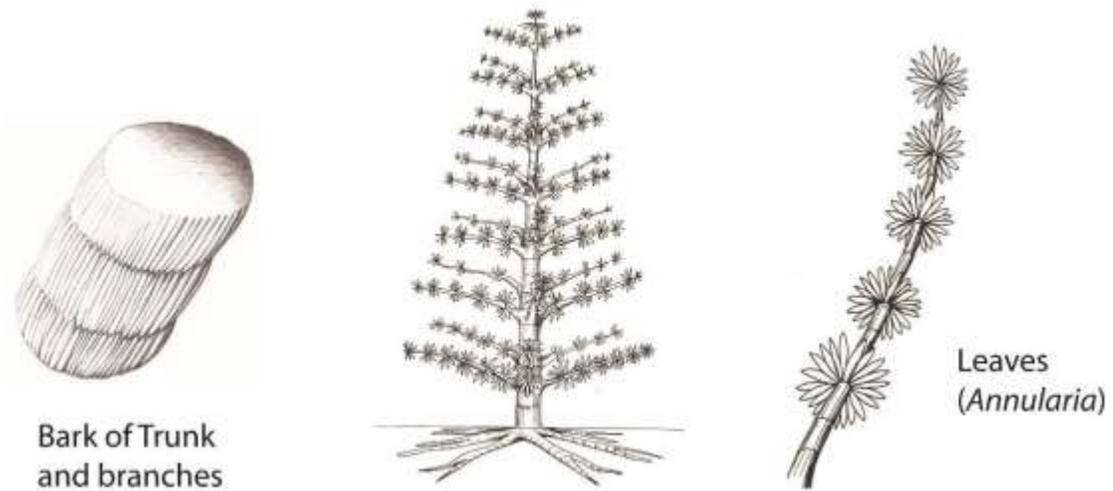
Lepidodendron, an extinct coal-age tree. Illustrations by Sherrie Shepherd.



Bark of Trunk
and branches

Root
(*Stigmaria*)

Sigillaria, an extinct coal-age tree. Illustrations by Sherrie Shepherd.



Bark of Trunk
and branches

Leaves
(*Annularia*)

Calamites, an extinct horsetail. Illustrations by Sherrie Shepherd.

Stigmaria fossils

Plant fossils with small round indentions are usually fossils of the root system called *Stigmaria*, of either of the trees, *Lepidodendron* or *Sigillaria*. The bark of *Sigillaria* is differentiated by parallel lines between rows of round indentions. The majority of *Stigmaria* fossils are found in the Pennsylvanian Hartshorne Sandstone and McAlester Shale of the Arkansas River Valley.



Stigmaria fossil from Bates, Arkansas



Stigmaria fossil from Bates, Arkansas